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EXAMINER

GOFF II, JOHN L

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,887

Applicant(s)

HESCH, ROLF

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 8-10, 34 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7 and 11-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/150,707.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This action is in response to Amendment C received on 9/17/03.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Newly submitted claims 34 and 35 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The product as claimed can be made by a materially different process such as one where the binder is not directly molded, i.e. foamed, on the thin-section wall part.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 34 and 35 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 17-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 17 requires "the reinforcing elements extending across and beyond the thin-section wall part overlapping the adjoining load-bearing part". It is unclear where in the specification it is disclosed that the reinforcing elements extend beyond the thin-section wall part and overlap an adjoining load-bearing part. Furthermore, it is unclear where in the specification it is disclosed that the thin-section wall part is adjoined to a load bearing part. Claim 21 requires "using reinforcing elements made of material other than renewable material". It is unclear where in the specification the use of reinforcing elements made of material other than renewable material is disclosed. Claim 24 requires "wherein the step of applying reinforcing elements to the thin-section wall part is performed to place the reinforcing elements being disposed in parallel with a longitudinal axis of the thin-section wall". It is unclear where in the specification it is disclosed the reinforcing elements are placed in parallel with the longitudinal axis of the thin-section wall. Claim 29 requires "using reinforced elements produced separately". It is unclear where in the specification it is disclosed that the reinforced elements are produced separately.

6. Claims 17-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 17 requires "the reinforcing elements extending across and beyond the thin-section wall part overlapping the adjoining load-bearing part". It is not clear from the specification what is required by overlapping the adjoining load-bearing part. Do the reinforcing elements merely

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contact the load-bearing part or are the reinforcing elements somehow embedded or attached to the load-bearing part? Applicant is asked to clarify what is required by the claim. This issue should be clarified and reworded as appropriate.

Claim Rejections - 35 USC § 103

8. Claims 1, 2, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. (U.S. Patent 4,298,556) in view of Spehner (U.S. Patent 5,232,779).

Rutsch et al. are directed to a method of molding fiber reinforced foam composites for use as auto-body parts, seats, helmets, luggage, etc. (Column 1, lines 8-11). Rutsch et al. teach an open mold containing an ABS foil (thin-section wall part) and fiber reinforcing elements (Figure 1 and Column 3, lines 1-4). Rutsch et al. teach a method comprising filling the mold with a reactive foam mixture (foaming agent), closing the mold, and foaming the mixture to encapsulate the fiber reinforcing elements (Figures 1-3 and Column 1, lines 12-22 and Column 3, lines 1-10 and Column 4, lines 8-25). It is noted Rutsch et al. do not specifically recite a set time delay. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rutsch et al. to use a reactive foam mixture with a set time delay to ensure foaming does not begin until after the open mold is filled with reactive foam mixture, i.e. the reactive foam mixture is distributed within the mold and closed prior to foaming.

Regarding claims 1, 13, and 14, Rutsch et al. do not specifically recite using renewable raw materials as the reinforcing elements. However, one of ordinary skill in the art at the time the invention was made would have readily appreciated using as the reinforcing elements taught by Rutsch et al. materials such as flax, hemp, jute, grass, etc. as it was well known in the art to

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use these materials as fiber reinforcing elements in a molding process as shown for example by Spehner to produce molded articles having excellent mechanical properties such as tensile strength, flexural strength, etc.

Spehner is directed to fiber reinforcement elements based on plant fibers useful as fiber reinforcement material in molded parts. Spehner teaches the fiber reinforcement elements are made of renewable raw materials such as flax, hemp, jute, grass, etc. Spehner teaches the fiber reinforcement materials are used to produce molded articles having excellent mechanical properties such as tensile strength, flexural strength, etc. (Column 1, lines 6-10, 16, 31-34, and 58-65 and Column 5, lines 3-8 and 24-26).

9. Claims 3, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied above in paragraph 8, and further in view of Preston. (U.S. Patent 4,714,575)

Regarding claim 3, Rutsch et al. and Spehner teach all of the limitations in the claim as applied above except for a teaching on a set time delay of less than five seconds. Preston is directed to a method for manufacturing RIM composites. Preston teaches an open mold containing a vinyl skin layer (thin-section wall part) and a glass mat (reinforcing elements) (Column 1, lines 29-31 and Column 4, lines 13-18). Preston teaches a method comprising closing the mold, filling the mold with a polyurethane foam mixture (foaming agent), and foaming the mixture to penetrate and encapsulate the glass fibers (Figures 2 and 3 and Column 4, lines 20-27 and 32-35). Preston further teaches that the time for filling the mold is less than five seconds (Column 3, lines 28-34). One of ordinary skill in the art at the time the invention was made would have readily appreciated using in Rutsch et al. as modified by Spehner a foam

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mixture with a time delay of five seconds or less as suggested by Preston to ensure foaming does not begin prior to completely distributing the mixture within the mold.

Regarding claims 11 and 12, Rutsch et al. and Spehner teach all of the limitations in the claims as applied above except for a specific teaching on using injection cannulas/nozzles for introducing the reactive foam mixture in the mold. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use injection cannulas/nozzles for introducing the reactive foam mixture into the mold taught by Rutsch et al. as modified by Spehner as injection cannulas/nozzles are well known means for introducing a reactive foam mixture into a mold as shown for example by Preston (See Figure 2 of Preston).

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied in above in paragraph 8, and further in view of Miyake et al. (U.S. Patent 5,354,397).

Rutsch et al. and Spehner teach all of the limitations in claim 4 as applied above except for a teaching on priming the ABS foil (thin-section wall part) prior to applying the foam mixture. However, it is well known in the art to prime a substrate such as an ABS foil on the foam application side to improve adhesion between the substrate and foam as shown by Miyake et al. One of ordinary skill in the art at the time the invention was made reading Rutsch et al. and Spehner in view of Miyake et al. would have readily appreciated incorporating into the method taught by Rutsch et al. as modified by Spehner a priming step as suggested by Miyake et al. to improve adhesion between the foil and the foam.

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Miyake et al. are directed to a molding comprising a soft touch layer and a foamed molding resin (Column 2, lines 54-59 and Column 7, lines 49-53 and Column 8, lines 4-7). Miyake et al. teach priming the soft touch layer to enhance adhesion (Column 7, lines 45-48).

11. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied in above in paragraph 8, and further in view of the admitted prior art (Specification pages 1-2).

Rutsch et al. and Spehner teach all of the limitations in claims 5 and 6 as applied above except for a teaching on providing the ABS foil (thin-section wall part) with an insulating layer (hard shell) and transverse cross pieces. However, it is known in the art to use insulating layers and transverse cross-pieces as shown by the admitted prior art. The admitted prior art is directed to known structural composite elements. The admitted prior art teaches that transverse cross pieces are known as a means for side impact protection and insulating layers are known for heat insulation (Specification pages 1 and 2).

Regarding claim 5, one of ordinary skill in the art at the time the invention was made would have readily appreciated providing the ABS foil taught by Rutsch et al. as modified by Spehner with an insulating layer (hard shell) during foaming as suggested by the admitted prior art to provide the molded part with heat insulation.

Regarding claim 6, one of ordinary skill in the art at the time the invention was made would have readily appreciated incorporating into Rutsch et al. as modified by Spehner transverse cross pieces as suggested by the admitted prior art to provide the molded part with side impact protection.

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12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied in above in paragraph 8, and further in view of WO 94/09982.

Rutsch et al. and Spehner teach all of the limitations in claim 7 as applied above except for a teaching on using recycled foam cores. However, it is well known in the art to use recycled foam cores to reduce cost as shown by WO 94/09982. One of ordinary skill in the art at the time the invention was made would have readily appreciated incorporating into the method taught by Rutsch et al. as modified by Spehner recycled foam cores as suggested by WO 94/09982 to reduce the cost of producing the foamed composites.

WO 94/09982 is directed to a plastic foam molded body. WO 94/09982 teaches using an inner core of recycled foam encapsulated within an outer covering of fresh foam (See abstract).

13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied in above in paragraph 8, and further in view of Lim et al. (U.S. Patent 5,395,135).

Rutsch et al. and Spehner teach all of the limitations in claim 16 as applied above except for a teaching on using the composite as reinforcement in an automobile door. However, it is noted Rutsch et al. teach using the fiber reinforced foam composites in auto-body parts such that one of ordinary skill in the art at the time the invention was made would have readily appreciated using the fiber reinforced foam composites taught by Rutsch et al. as modified by Spehner to form auto body doors (pairs of composites separated by a window channel) as it was well known in the art to use composites such as those taught by Rutsch et al. as modified by Spehner in these auto body parts as shown for example by Lim et al.

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Lim et al. disclose the use of foam composites to form auto body parts such as doors wherein the doors comprise pairs of the composites separated by a window channel (Figure 2 and Column 3, lines 12-30).

Allowable Subject Matter

14. Claims 17-33 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, first and second paragraph, set forth in this Office action.

15. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or suggest molding on a thin-section wall part a foam binder and reinforced structural elements wherein the reinforced structural elements extend beyond the thin-section wall part and overlap an adjoining load-bearing part.

Response to Arguments

16. Applicant's arguments with respect to claims 1-7 and 11-33 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues "Applicant believes that an ABS foil, as disclosed in Rutsch et al., cannot be equated with a thin-section wall part. A wall is regarded as a stable three-dimensional structure, at least being able to stand on its own. A foil is a two-dimensional object, flexible at least in one dimension, unable to stand on its own". It is noted applicants arguments are not commensurate in scope with what is claimed. A foil per se is not excluded by the claimed thin-section wall part. A foil is a three-dimensional object having a small thickness which is equivalent to the thin-section wall part claimed by applicant (emphasis added). It is further noted the specification discloses "the thin-section wall part is formed with

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sheet metal or a thin-layer, sheet-like decorative material” (Specification page 8, lines 8-10), and Rutsch et al. disclose the foil as capable for making trunk hoods, auto body parts etc. (Column 1, lines 8-11) such that the foil taught by Rutsch et al. clearly encompasses sheet metal and a thin-layer, sheet-like decorative material. As to applicants arguments regarding the newly added claims, see paragraphs 5, 7, 14, and 15.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481** (after December 2003 the telephone number will be 571-272-1216). The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 703-308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



John L. Goff



JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300